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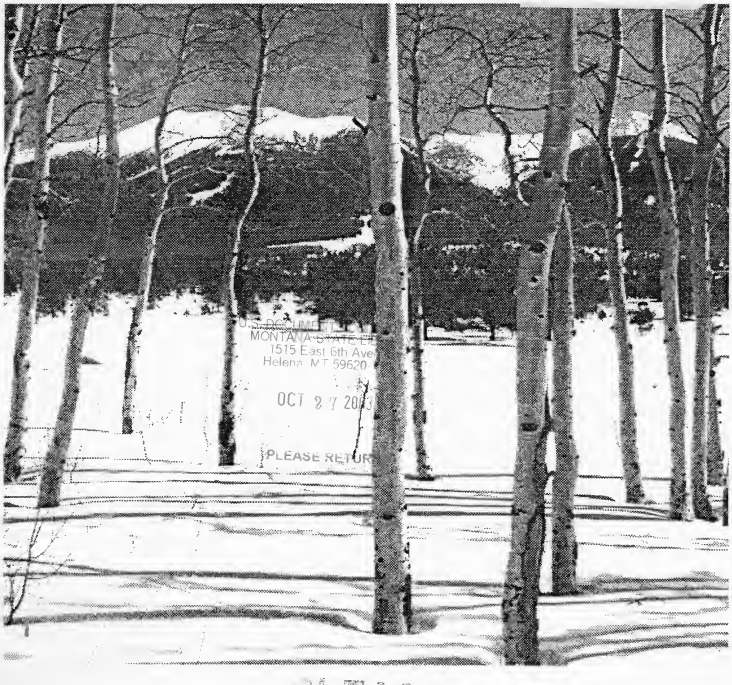
United States Department of Agriculture

Natural Resources Conservation Service

Montana Basin Outlook Report March 1, 1995



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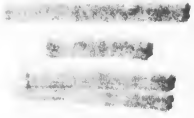

Basin Outlook Reports
and
Federal - State - Private
Cooperative Snow Surveys

For more water supply and resource management information, contact:
See Attached List

How forecasts are made

Most of the annual streamflow in the Western United States originates as snowfall that has accumulated high in the mountains during winter and early spring. As the snowpack accumulates, hydrologists estimate the runoff that will occur when it melts. Predictions are based on careful measurements of snow water equivalent at selected index points. Precipitation, temperature, soil moisture and antecedent streamflow data are combined with snowpack data to prepare runoff forecasts. Streamflow forecasts are coordinated by Natural Resources Conservation Service and National Weather Service hydrologists. This report presents a comprehensive picture of water supply conditions for areas dependent upon surface runoff. It includes selected streamflow forecasts, summarized snowpack and precipitation data, reservoir storage data, and narratives describing current conditions.

Snowpack data are obtained by using a combination of manual and automated SNOTEL measurement methods. Manual readings of snow depth and water equivalent are taken at locations called snow courses on a monthly or semi-monthly schedule during the winter. In addition, snow water equivalent, precipitation and temperature are monitored on a daily basis and transmitted via meteor burst telemetry to central data collection facilities. Both monthly and daily data are used to project snowmelt runoff.

Forecast uncertainty originates from two sources: (1) uncertainty of future hydrologic and climatic conditions, and (2) error in the forecasting procedure. To express the uncertainty in the most probable forecast, four additional forecasts are provided. The actual streamflow can be expected to exceed the most probable forecast 50% of the time. Similarly, the actual streamflow volume can be expected to exceed the 90% forecast volume 90% of the time. The same is true for the 70%, 30%, and 10% forecasts. Generally, the 90% and 70% forecasts reflect drier than normal hydrologic and climatic conditions; the 30% and 10% forecasts reflect wetter than normal conditions. As the forecast season progresses, a greater portion of the future hydrologic and climatic uncertainty will become known and the additional forecasts will move closer to the most probable forecast.

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Natural Resources Conservation Service (formerly the Soil Conservation Service)
Bozeman, Montana

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MONTANA Water Supply Outlook Report as of March 1, 1995

In terms of water supply, February was a very disappointing month. There were only a couple of storms that added appreciable snow to the mountains, and the main thrust of the month was record breaking temperatures. Storms that made their way across the state came down from Canada with mostly dry cold air.

SNOWPACK

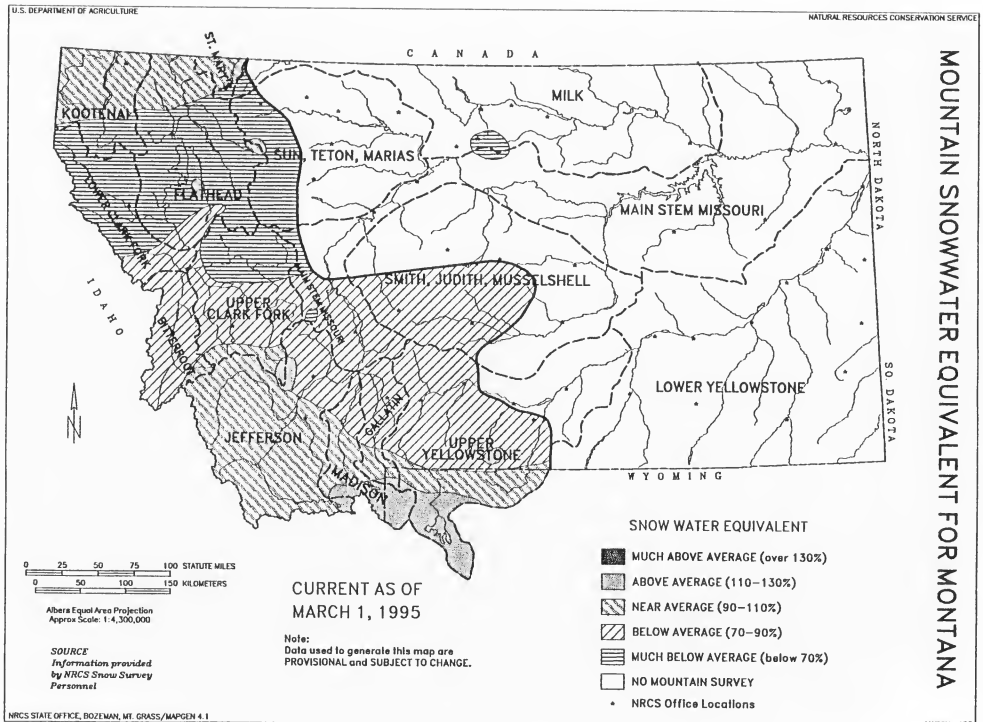
As of March 1, mountain snow water content across Montana was 12 percent below average and 15 percent above last year, and has dropped 13 percent during February.

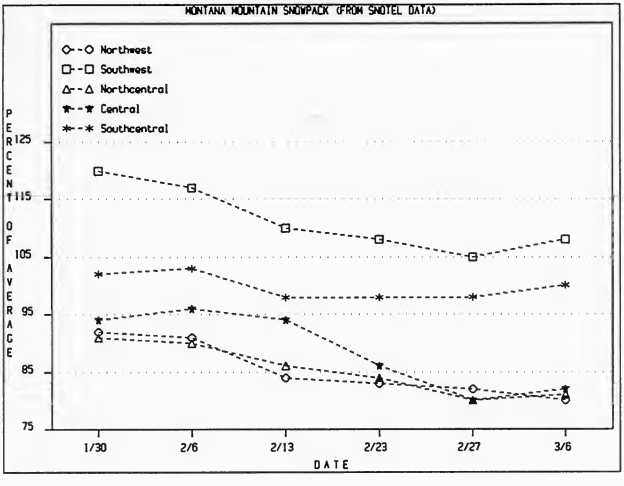
Snowpack extremes occurred in the Milk River Basin where the snowpack was 93 percent below average and 96 percent below last year, tieing the lowest snow water content previously set in 1981. On the other extreme, the Upper Madison snowpack was 23 percent above average and 51 percent above last year.

West of the Continental Divide, snow water content was 18 percent below average and 14 percent above last year and dropped 14 percent during February. East of the Continental Divide snow water content was 7 percent below average and 14 percent above last year and dropped 13 percent during February.

With about 80 percent of the winter snowpack in place, the Sun, Teton, Marias and Clark Fork River Basins need exceptional March snow water gain or substantial and timely rains to insure adequate surface water supplies. Current snow water content in the Sun, Blackfoot, and Milk River Basins are critically low for this time of year.

RIVER BASIN	% OF AVERAGE	% OF LAST YEAR
COLUMBIA	82	113
KOOTENAI	90	125
FLATHEAD	84	107
UPPER CLARK FORK	75	111
BITTERROOT	76	114
LOWER CLARK FORK	78	120
MISSOURI	92	113
MISSOURI HEADWATERS	104	140
JEFFERSON	106	151
MADISON	113	148
GALLATIN	90	115
MISSOURI MAINSTEM	69	76
HEADWATERS MAINSTEM	80	108
SMITH-JUDITH-MUSSELSHELL	78	84
SUN-TETON-MARIAS	73	87
MILK	7	4
ST. MARY	86	90
YELLOWSTONE	94	111
UPPER YELLOWSTONE	95	111
LOWER YELLOWSTONE (WYOMING).	96	111
WIND	92	125
SHOSHONE	106	125
BIGHORN	98	106
TONGUE	89	93
POWDER	108	121


U.S. DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE
MOUNTAIN SNOWWATER EQUIVALENT FOR MONTANA
CANADA
ST. MARY
KOOTENAI
SUN, TETON, MARIAS
MILK
FLATHEAD
NORTH DAKOTA
MAIN STEM MISSOURI
KOOTENAI
MIDDLE FORK
SMITH, JUDITH, MUSSELSHELL
IDAHO
UPPER CLARK FORK
BITTERROOT
LOWER YELLOWSTONE
SO. DAKOTA
JEFFERSON
GALLATIN
UPPER YELLOWSTONE
MADISON
WYOMING
0 25 50 75 100 STATUTE MILES
0 50 100 150 KILOMETERS
Albers Equal Area Projection
Approx Scale: 1:4,300,000
SOURCE
Information provided by NRCS Snow Survey Personnel
CURRENT AS OF MARCH 1, 1995
Note:
Data used to generate this map are PROVISIONAL and SUBJECT TO CHANGE.
SNOW WATER EQUIVALENT
MUCH ABOVE AVERAGE (over 130%)
ABOVE AVERAGE (110–130%)
NEAR AVERAGE (90–110%)
BELOW AVERAGE (70–90%)
MUCH BELOW AVERAGE (below 70%)
NO MOUNTAIN SURVEY
NRCS Office Locations
NRCS STATE OFFICE, BOZEMAN, MT. GRASS/MAPGEN 4.1
MARCH 1995


MONTANA MOUNTAIN SNOWPACK (FROM SNOTEL DATA)
Northwest
Southwest
Northcentral
Central
Southcentral
PERCENT OF AVERAGE
125
115
105
95
85
75
1/30
2/6
2/13
2/23
2/27
3/6
DATE

PRECIPITATION

February precipitation across the state was 22 percent below average and 21 percent below last year, while water year precipitation was 8 percent above average and 35 percent above last year.

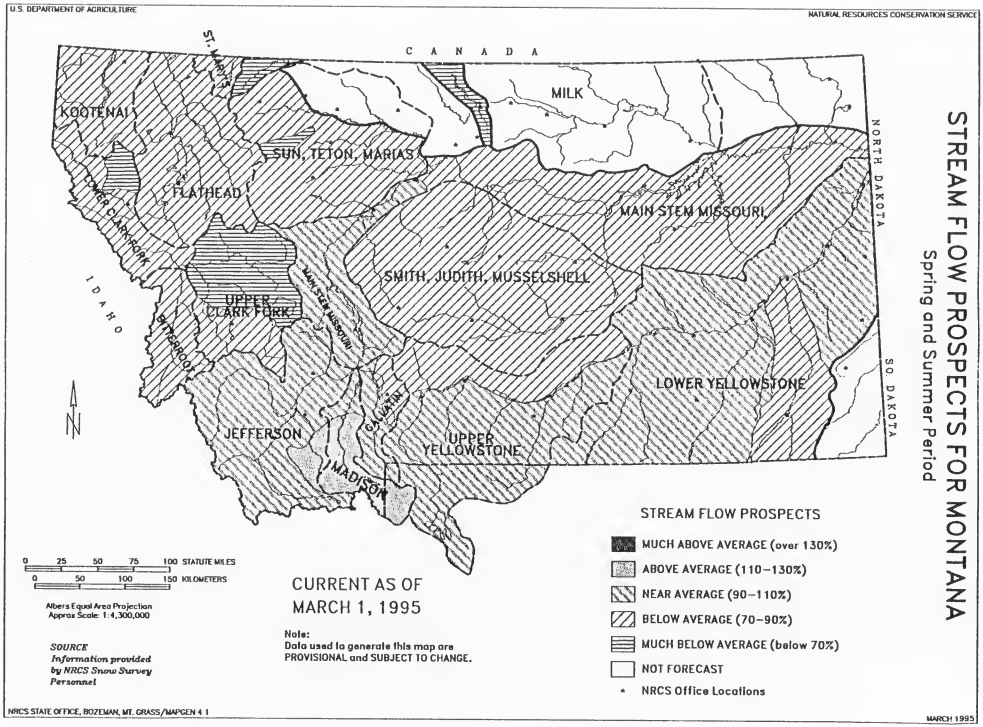
West of the Continental Divide, February precipitation was 16 percent below average and 1 percent below last year and water year precipitation was average and 58 percent above last year. East of the Continental Divide, February precipitation was 25 percent below average and 30 percent below last year, and water year precipitation was 10 percent above average and 30 percent above last year.

RIVER BASIN	FEBRUARY % OF AVERAGE	WATER YEAR % OF AVERAGE
COLUMBIA	84	103
KOOTENAI	87	107
FLATHEAD	79	92
UPPER CLARK FORK	100	93
BITTERROOT	97	101
LOWER CLARK FORK	115	105
MISSOURI	70	107
JEFFERSON	75	139
MADISON	66	126
GALLATIN	56	101
MISSOURI MAINSTEM	49	93
SMITH-JUDITH-MUSSELSHELL	61	93
SUN-TETON-MARIAS	80	99
MILK	37	81
ST. MARY	110	104
YELLOWSTONE	80	114
UPPER YELLOWSTONE	73	107
LOWER YELLOWSTONE	90	122
WIND	92	112
SHOSHONE	89	119
BIGHORN	100	127

RESERVOIRS

Major reservoir storage across the state was 17 percent BELOW average and 29 percent below last year. West of the Continental Divide, reservoirs were 5 percent above average and 38 percent above last year. East of the Continental Divide, reservoirs were 4 percent below average and 12 percent below last year.

RIVER BASIN	% OF AVERAGE	% OF LAST YEAR
COLUMBIA	105	138
KOOTENAI	146	119
FLATHEAD	80	158
UPPER CLARK FORK	112	95
BITTERROOT	78	221
LOWER CLARK FORK	108	98
MISSOURI	100	85
JEFFERSON	79	68
MADISON	103	99
GALLATIN	NO REPORT	
MISSOURI MAINSTEM	102	104
SMITH-JUDITH-MUSSELSHELL	107	82
SUN-TETON-MARIAS	111	89
MILK	98	70
ST. MARY	80	68
YELLOWSTONE	108	112
UPPER YELLOWSTONE	118	118
LOWER YELLOWSTONE	98	105


U.S. DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE
STREAM FLOW PROSPECTS FOR MONTANA
Spring and Summer Period
C A N A D A
ST. MARY'S
MILK
KOOTENAI
SUN, TETON, MARIAS
FLATHEAD
MAIN STEM MISSOURI
NORTH DAKOTA
LOWER KOOTENAI
SMITH, JUDITH, MUSSELSHELL
I D A H O
UPPER CLARK FORK
BITTERROOT
MAIN STEM MISSOURI
LOWER YELLOWSTONE
SO. DAKOTA
GALLATIN
JEFFERSON
UPPER YELLOWSTONE
MADISON
STREAM FLOW PROSPECTS
MUCH ABOVE AVERAGE (over 130%)
ABOVE AVERAGE (110–130%)
NEAR AVERAGE (90–110%)
BELOW AVERAGE (70–90%)
MUCH BELOW AVERAGE (below 70%)
NOT FORECAST
NRCS Office Locations
0 25 50 75 100 STATUTE MILES
0 50 100 150 KILOMETERS
Albers Equal Area Projection
Approx Scale: 1:4,300,000
SOURCE
Information provided by NRCS Snow Survey Personnel
CURRENT AS OF MARCH 1, 1995
Note:
Data used to generate this map are PROVISIONAL and SUBJECT TO CHANGE.
NRCS STATE OFFICE, BOZEMAN, MT. GRASS/MAPGEN 4.1
MARCH 1995

STREAMFLOW

Streamflow forecasts across Montana were 13 percent below average and 18 percent above last years forecasts. West of the Continental Divide, streamflows are forecast to be 24 percent below average and 7 percent above last years forecasts. East of the Continental Divide, streamflows are forecast to be 16 percent below average and 20 percent above last years forecasts.

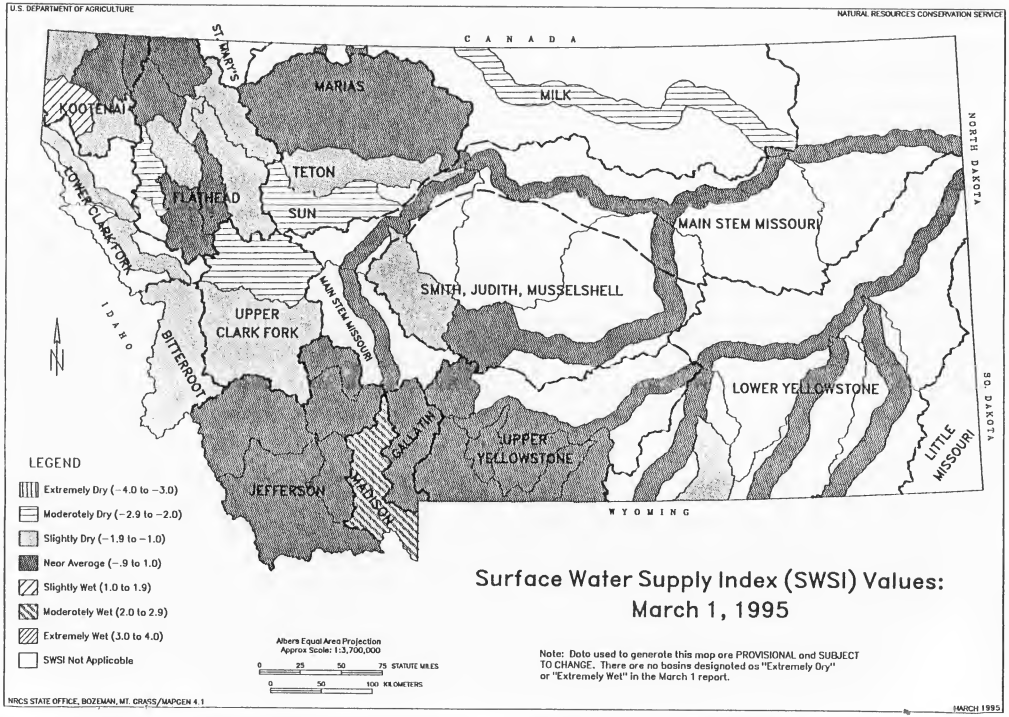
RIVER BASIN	FORECASTS % OF AVERAGE	FORECASTS % OF LAST YEAR
COLUMBIA	76	107
KOOTENAI	88	115
FLATHEAD	80	97
UPPER CLARK FORK	70	117
BITTERROOT	72	127
LOWER CLARK FORK	72	108
MISSOURI	92	125
JEFFERSON	95	162
MADISON	115	148
GALLATIN	100	135
MISSOURI MAINSTEM	90	131
SMITH-JUDITH-MUSSELSHELL	82	99
SUN-TETON-MARIAS	79	100
MILK	65	71
ST. MARY	84	97
YELLOWSTONE	96	114
UPPER YELLOWSTONE	95	115
LOWER YELLOWSTONE	96	114

NOTE: The FORECAST AS % OF LAST YEAR column above, is this years forecast as a percent of last years forecast, not of what actually occurred.

SURFACE WATER SUPPLY INDEX

The Surface Water Supply Index (SWSI) is a measure of available surface water availability for the spring and summer months. Water users that rely on mountain precipitation can use the index to evaluate seasonal surface water supplies. The SWSI accounts for mountain snowpack, mountain precipitation, streamflow, reservoir storage, and soil moisture.

SWSI RATING	SURFACE WATER CONDITION
+3.0 to +4.0	Extremely Wet
+2.0 to +3.0	Moderately Wet
+1.0 to +2.0	Slightly Wet
-1.0 to +1.0	Near Average
-1.0 to -2.0	Slightly Dry
-2.0 to -3.0	Moderately Dry
-3.0 to -4.0	Extremely Dry


U.S. DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE
C A N A D A
ST MARY'S
MARIAS
MILK
KOOTENAI
TETON
FLATHEAD
SUN
LOWER CLARK FORK
MAIN STEM MISSOURI
SMITH, JUDITH, MUSSELSHELL
UPPER CLARK FORK
I D A H O
BITTERROOT
N
LOWER YELLOWSTONE
GALLATIN
UPPER YELLOWSTONE
LITTLE MISSOURI
JEFFERSON
MADISON
W Y O M I N G
NORTH DAKOTA
SO. DAKOTA
LEGEND
Extremely Dry (−4.0 to −3.0)
Moderately Dry (−2.9 to −2.0)
Slightly Dry (−1.9 to −1.0)
Near Average (−.9 to 1.0)
Slightly Wet (1.0 to 1.9)
Moderately Wet (2.0 to 2.9)
Extremely Wet (3.0 to 4.0)
SWSI Not Applicable
Albers Equal Area Projection
Approx Scale: 1:3,700,000
0 25 50 75 STATUTE MILES
0 50 100 KILOMETERS
Surface Water Supply Index (SWSI) Values:
March 1, 1995
Note: Data used to generate this map are PROVISIONAL and SUBJECT TO CHANGE. There are no basins designated as "Extremely Dry" or "Extremely Wet" in the March 1 report.
NRCS STATE OFFICE, BOZEMAN, MT. GRASS/MAPGEN 4.1
MARCH 1995

SWSI's on March 1, were ranging from -2.3 to 2.5 statewide. West of the Continental Divide, SWSI's were ranging from -2.3 to 1.2 and east of the Continental Divide from -2.3 to 2.5.

SWSI	Basin
-0.3	Kootenai River at Ft. Steele (Kootenai in Canada)
-0.3	Tobacco River
-0.5	Kootenai Ft. Steele to Libby Dam
+1.2	Kootenai River below Libby Dam
-1.3	Fisher River
-1.4	Yaak River
-0.9	North Fork Flathead River
-1.1	Middle FORK Flathead River
-1.5	South Fork Flathead River
-1.2	Flathead River at Columbia Falls
-0.9	Stillwater/Whitefish Rivers
-0.9	Swan River
-1.3	Flathead River at Polson
-0.9	Mission Valley
-2.3	Little Bitterroot River
-1.3	Clark Fork River above Rock Creek
-2.0	Blackfoot River
-1.7	Clark Fork River above Missoula
-1.3	Bitterroot River
-1.6	Clark Fork River below Bitterroot River
-1.4	Clark Fork River below Flathead River
-0.9	Beaverhead River
+0.5	Ruby River
-0.2	Big Hole River
-0.3	Boulder River (Jefferson)
-0.3	Jefferson River
+2.5	Madison River
+0.1	Gallatin River
+0.7	Missouri River above Canyon Ferry
+0.6	Missouri River below Canyon Ferry
-1.9	Smith River
-2.0	Sun River
-1.5	Teton River
-1.8	Birch/Dupuyer Creeks
-1.2	Marias River
-0.7	Musselshell River
+0.6	Missouri River above Ft. Peck
+0.1	Missouri River below Ft. Peck
-2.3	Milk River (USBR users)
-0.2	Yellowstone River above Livingston
-0.9	Shields River
-0.7	Boulder River (Yellowstone)
+0.0	Stillwater River
-0.3	Rock/Red Lodge Creeks
-0.7	Clarks Fork River
-0.3	Yellowstone River above Bighorn River
-0.6	Bighorn River below Bighorn Lake
-1.8	Little Bighorn River
-0.4	Yellowstone River below Bighorn River
-0.7	Tongue River
+0.5	Powder River

KOOTENAI RIVER BASIN in Montana as of March 1, 1995

Snowpack conditions in the Kootenai River Basin of Montana and Canada were average. Snow water content for the Kootenai in Montana was 10 percent below average and 25 percent above last year and has dropped 17 percent during February. Snow water content for the Kootenai in Canada was 10 percent below average, the same as last year and has dropped 5 percent during February.

Watershed Snowpack Analysis

Watershed	Number of Data Sites	This Year as Percent of Last Year	Average
KOOTENAI MAINSTEM	3	160	104
TOBACCO	3	121	96
FISHER	4	97	69
YAAK	6	122	87
KOOTENAI ab BONNERS FERRY	40	111	90
KOOTENAI in MONTANA	15	126	90

Mountain precipitation during February was 11 percent below average and 6 percent below last year. Valley precipitation during February was 20 percent below average and 2 percent above last year. Water year precipitation, beginning October 1, 1994, was 7 percent above average and 59 percent above last year.

Lake Koocanusa storage, on the last day of February, was 46 percent above average and 19 percent above last year.

Reservoir Storage (1000AF) End of February

Reservoir	Usable Capacity	********** Usable Storage This Year	Last Year	********* Average
LAKE KOOCANUSA	5748.0	2806.0	2365.0	1921.0

Streamflows, for the period April through July, are forecast to be 12 percent below average and 15 percent above last years forecasts.

Streamflow Forecasts

Forecast Pt Forecast Period	<=== Drier === 90% (1000AF)	70% (1000AF)	Future Conditions Chance of Exceeding * 50% (Most Prob) (1000AF) (% AVG.)	=== Wetter ===> 30% (1000AF)	10% (1000AF)	30 Yr Avg (1000AF)
TOBACCO nr Eureka						
APR-JUL	85	100	109 82	119	133	133
APR-SEP	93	109	120 82	131	148	147
KOOTENAI bl Libby Dam (1,2)						
APR-JUL	3960	4780	5150 89	5520	6340	5779
APR-SEP	4640	5600	6040 89	6480	7440	6772

Streamflow Forecasts

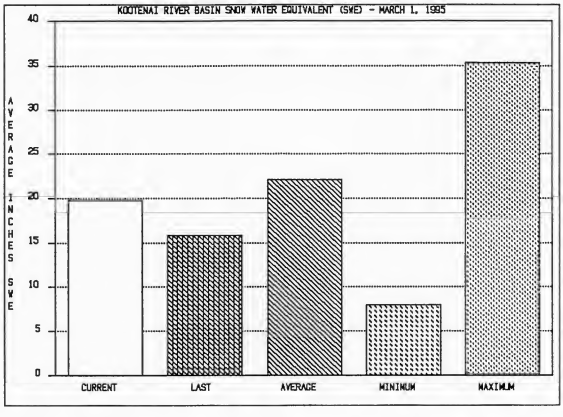
Forecast Pt / Forecast Period	<--- Drier --- 90% (1000AF)	70% (1000AF)	Future Conditions --- 50% (Most Prob) (1000AF) (% AVG.)	--- Wetter ---> 30% (1000AF)	10% (1000AF)	30 Yr Avg (1000AF)
	Chance of Exceeding *					
FISHER nr Libby						
APR-JUL	133	156	171 (73)	186	210	234
APR-SEP	151	174	190 (76)	205	230	250
YAAK near Troy						
APR-JUL	330	375	406 (84)	435	480	483
APR-SEP	350	395	427 (85)	460	505	505
KOOTENAI at Leonia (1,2)						
APR-JUL	4790	5820	6290 (87)	6760	7790	7199
APR-SEP	5510	6690	7230 (87)	7770	8950	8275

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1961-1990 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural flow - actual flow may be affected by upstream water management.

Surface Water Supply Index (SWSI) was -0.3 in the Kootenai at Ft. Steele (Kootenai in Canada); -0.3 in the Tobacco River; -0.5 in the Kootenai Ft. Steele to Libby Dam; 1.2 in the Kootenai River below Libby Dam; -1.3 in the Fisher River; and -1.4 in the Yaak River.



AVERAGE IS FOR THE PERIOD 1961-1990.

MINIMUM SNOW WATER EQUIVALENT, 1961-1994, OCCURRED IN WATER YEAR 1977.

MAXIMUM SNOW WATER EQUIVALENT, 1961-1994, OCCURRED IN WATER YEAR 1972.

FLATHEAD RIVER BASIN as of March 1, 1995

Snowpack conditions in the Flathead River Basin of Montana and Canada were below average. Snow water content for the Flathead River Basin in Montana was 16 percent below average and 7 percent above last year and has dropped 15 percent during February. Snow water content for the Flathead River Basin in Canada was 7 percent below average and 25 percent above last year and has dropped 4 percent during February.

Watershed Snowpack Analysis

Watershed	Number of Data Sites	This Year as Percent of Last Year	Average
NORTH FORK in CANADA	3	125	93
NORTH FORK in MONTANA	9	108	94
MIDDLE FORK	6	104	86
SOUTH FORK	7	103	81
STILLWATER-WHITEFISH	10	108	85
SWAN	8	120	88
MISSION VALLEY	5	130	94
LITTLE BITTERROOT-ASHLEY	6	72	55
JOCKO	5	102	69
FLATHEAD in MONTANA	41	106	83
FLATHEAD RIVER BASIN	44	108	84

Mountain precipitation during February was 21 percent below average and 9 percent below last year. Valley precipitation during February was 21 percent below average and 12 percent below last year. Water year precipitation, beginning October 1, 1994, was 5 percent above average and 38 percent above last year.

Reservoir storage, on the last day of February, was 20 percent below average and 58 percent above last year. Combined Camas reservoir storage was 45 percent below average and 41 percent below last year; combined Mission Valley reservoir storage was 22 percent below average and 23 percent below last year; Hungry Horse storage was 22 percent below average and 117 percent above last year; and Flathead Lake storage was 15 percent below average and 1 percent above last year.

Reservoir Storage (1000AF) End of February

Reservoir	Usable Capacity	********** Usable Storage ********** This Year	Last Year	Average
CAMAS (4)	45.2	11.5	19.4	21.0
MISSION VALLEY (8)	100.0	29.6	38.2	37.8
HUNGRY HORSE	3451.0	1721.0	793.2	2205.0
FLATHEAD LAKE	1791.0	749.2	743.2	881.0

Streamflows, for the period April through July, are forecast to be 20 percent below average and 3 percent below last years forecasts.

Streamflow Forecasts

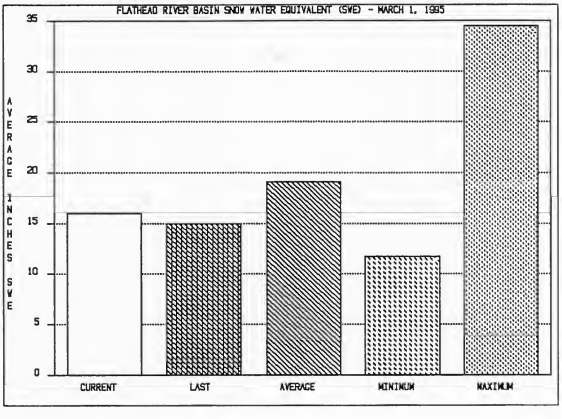
Forecast Pt / Forecast Period	<--- Drier --- Future Conditions --- Wetter ---> Chance of Exceeding * 90% (1000AF)	70% (1000AF)	50% (Most Prob) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	30 Yr Avg (1000AF)
NF FLATHEAD nr Columbia Falls							
APR-JUL	1230	1340	1410	85	1480	1590	1662
APR-SEP	1370	1480	1560	85	1640	1750	1836
MF FLATHEAD nr West Glacier							
APR-JUL	1100	1240	1330	81	1420	1560	1638
APR-SEP	1200	1350	1450	81	1550	1700	1788
SF FLATHEAD nr Columbia Fls (1,2)							
APR-JUL	1300	1530	1630	79	1730	1960	2051
APR-SEP	1370	1620	1730	79	1840	2090	2184
FLATHEAD at Columbia Falls (2)							
APR-JUL	3740	4110	4360	80	4610	4980	5482
APR-SEP	4070	4470	4750	80	5030	5430	5960
STILLWATER nr Whitefish							
APR-JUL	122	136	145	77	155	169	189
APR-SEP	137	152	162	78	172	187	209
WHITEFISH nr Kalispell							
APR-JUL	63	72	79	76	86	96	104
APR-SEP	73	83	90	78	97	107	116
SWAN nr Bigfork							
APR-JUL	395	445	476	82	510	555	583
APR-SEP	455	505	543	82	580	635	665
FLATHEAD nr Polson (1,2)							
APR-JUL	3870	4640	4990	78	5340	6110	6390
APR-SEP	4200	5030	5410	78	5790	6620	6926

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1961-1990 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural flow - actual flow may be affected by upstream water management.

Surface Water Supply Index (SWSI) was -0.9 in the North Fork Flathead River; -1.1 in the Middle Fork Flathead River; -1.5 in the South Fork Flathead River; -1.2 in the Flathead River at Columbia Falls; -0.9 in the Stillwater/Whitefish Rivers; -0.9 in the Swan River; -1.3 in the Flathead River at Polson; -0.9 in the Mission Valley; and -2.3 in the Little Bitterroot River.



AVERAGE IS FOR THE PERIOD 1961-1990.

MINIMUM SNOW WATER EQUIVALENT, 1961-1994, OCCURRED IN WATER YEAR 1977.

MAXIMUM SNOW WATER EQUIVALENT, 1961-1994, OCCURRED IN WATER YEAR 1972.

UPPER CLARK FORK RIVER BASIN as of March 1, 1995

Snowpack conditions in the Upper Clark Fork River Basin were below average and has dropped 14 percent during February. Snow water content was 25 percent below average and 9 percent above last year.

Watershed Snowpack Analysis

Watershed	Number of Data Sites	This Year as Percent of Last Year	Average
CLARK FORK ab FLINT CREEK	13	121	85
FLINT CREEK	6	122	82
ROCK CREEK	5	132	82
CLARK FORK ab BLACKFOOT	21	122	83
BLACKFOOT	16	95	64
UPPER CLARK FORK BASIN	35	111	75

Mountain precipitation during February was 37 percent below average 13 percent below last year. Valley precipitation during February was average and 33 percent above last year. Water year precipitation, beginning October 1, 1994, was 7 percent below average and 39 percent above last year.

Reservoir storage, on the last day of February, was 12 percent above average and 5 percent below last year. Georgetown Lake storage was 9 percent above average and 1 percent above last year; Lower Willow Creek storage was 59 percent above average and 34 percent below last year; and Nevada Creek storage was 16 percent above average and 13 percent below last year.

Reservoir Storage (1000AF) End of February

Reservoir	Usable Capacity	********** Usable Storage ********** This Year	Last Year	Average
GEORGETOWN LAKE	31.0	27.9	27.5	25.7
LOWER WILLOW CREEK	4.9	2.7	4.1	1.7
NEVADA CREEK	12.6	5.8	6.7	5.0

Streamflows, for the period April through July, are forecast to be 30 percent below average and 17 percent above last years forecasts.

Streamflow Forecasts

Forecast Pt Forecast Period	<=== Drier === 90% (1000AF)	70% (1000AF)	Future Conditions Chance of Exceeding * 50% (Most Prob) (1000AF)	(% AVG.)	=== Wetter ===> 30% (1000AF)	10% (1000AF)	30 Yr Avg (1000AF)
MOULTON RES inflow (million gal.)							
APR-JUN	89	140	174	82	210	260	212
APR-JUL	95	152	190	81	230	285	234
WARM SPRINGS CK at Anaconda (2)							
APR-JUL	22	29	33	87	38	44	38
APR-SEP	29	36	41	87	46	53	47

Streamflow Forecasts

Forecast Pt / Forecast Period	<=== Drier === Future Conditions === Wetter ===> Chance of Exceeding * 90% (1000AF)	70% (1000AF)	50% (Most Prob) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	30 Yr Avg (1000AF)
LITTLE BLACKFOOT nr Garrison							
APR-JUL	18.0	30	50	60	70	99	83
APR-SEP	21	34	55	62	76	107	89
FLINT CK nr Southern Cross (2)							
APR-JUL	5.5	8.7	10.8	76	12.9	16.1	14.2
APR-SEP	5.8	9.8	12.5	75	15.2	19.2	16.7
FLINT CK bl Boulder Ck							
APR-JUL	23	36	44	77	52	65	57
APR-SEP	32	46	56	77	66	81	73
LOWER WILLOW CK RES inflow							
APR-JUL	2.8	5.0	7.4	53	9.8	13.2	14.0
APR-SEP	3.1	5.7	8.1	55	10.5	14.1	14.8
MF ROCK CK nr Philipsburg							
APR-JUL	36	44	50	76	56	64	66
APR-SEP	41	51	57	77	63	73	74
ROCK CK nr Clinton							
APR-JUL	149	190	218	74	245	285	296
APR-SEP	174	220	250	75	280	325	333
NEVADA CK nr Finn							
APR-JUL	3.3	8.8	12.5	65	16.2	22	19.1
APR-SEP	4.0	10.0	14.0	65	18.0	23	21
CLEARWATER nr Clearwater							
APR-JUL	100	113	122	71	131	144	172
APR-SEP	105	119	128	71	137	151	181
BLACKFOOT nr Bonner							
APR-JUL	335	435	500	60	565	665	835
APR-SEP	375	480	555	60	630	735	926
CLARK FORK ab Milltown							
APR-JUL	275	415	512	79	610	750	652
APR-SEP	335	495	600	79	705	865	755

Streamflow Forecasts

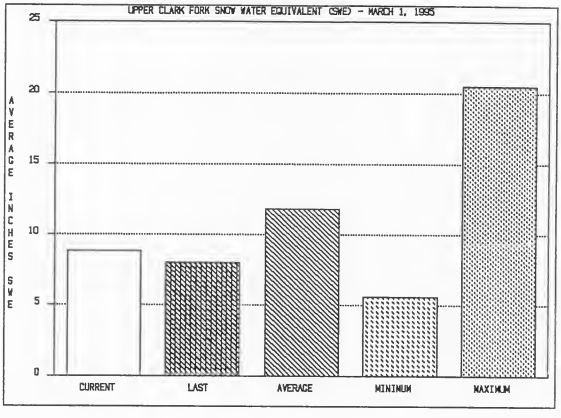
Forecast Pt / Forecast Period	<=== Drier === 90% (1000AF)	70% (1000AF)	Future Conditions — Chance of Exceeding * — 50% (Most Prob) (1000AF)	(% AVG.)	=== Wetter ===> 30% (1000AF)	10% (1000AF)	30 Yr Avg (1000AF)
CLARK FORK ab Missoula							
APR-JUL	645	870	1020	69	1170	1390	1487
APR-SEP	755	995	1160	69	1320	1570	1681

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1961-1990 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural flow - actual flow may be affected by upstream water management.

Surface Water Supply Index (SWSI) was -1.3 in the Clark Fork River above Rock Creek; -2.0 in the Blackfoot River; and -1.7 in the Clark Fork River above Missoula.



AVERAGE IS FOR THE PERIOD 1960-1990.

MINIMUM SNOW WATER EQUIVALENT, 1961-1994, OCCURRED IN WATER YEAR 1977.

MAXIMUM SNOW WATER EQUIVALENT, 1961-1994, OCCURRED IN WATER YEAR 1972.

BITTERROOT RIVER BASIN as of March 1, 1995

Snowpack conditions in the Bitterroot River Basin were below average and has dropped 13 percent during February. Snow water content was 24 percent below average and 14 percent above last year.

Watershed Snowpack Analysis

Watershed	Number of Data Sites	This Year as Percent of Last Year	Average
WEST FORK BITTERROOT	3	108	76
EAST SIDE BITTERROOT	5	129	81
WEST SIDE BITTERROOT	3	113	77
BITTERROOT RIVER BASIN	10	114	76

Mountain precipitation during February was 9 percent below average and 7 percent above last year. Valley precipitation during February was 80 percent above average and 99 percent above last year. Water year precipitation, beginning October 1, 1994, was 19 percent above average 90 percent above last year.

Reservoir storage, on the last day of February, was 22 percent below average and 121 percent above last year. Painted Rocks Lake storage was 72 percent below average and 84 percent above last year and Como storage was 24 percent above average and 131 percent above last year.

Reservoir Storage (1000AF) End of February

Reservoir	Usable Capacity	********** Usable Storage ********** This Year	Last Year	Average
PAINTED ROCKS LAKE	31.7	3.5	1.9	12.3
COMO	34.9	16.2	7.0	13.1

Streamflows, for the period April through July, are forecast to be 28 percent below average and 27 percent above last years forecasts.

Streamflow Forecasts

Forecast Pt Forecast Period	<--- Drier --- Chance of Exceeding * --- Wetter ---> 90% (1000AF)	70% (1000AF)	50% (Most Prob) (1000AF)	50% (Most Prob) (% AVG.)	30% (1000AF)	10% (1000AF)	30 Yr Avg (1000AF)
WF BITTERROOT nr Conner (2)							
APR-JUL	66	90	106	70	122	146	152
APR-SEP	73	99	116	70	133	159	166
BITTERROOT nr Darby							
APR-JUL	260	320	365	74	410	470	491
APR-SEP	295	360	405	75	450	515	540
ROCK CK nr Darby (2)							
APR-JUL	49	57	62	78	67	75	79
APR-SEP	53	61	66	80	71	79	83

Streamflow Forecasts

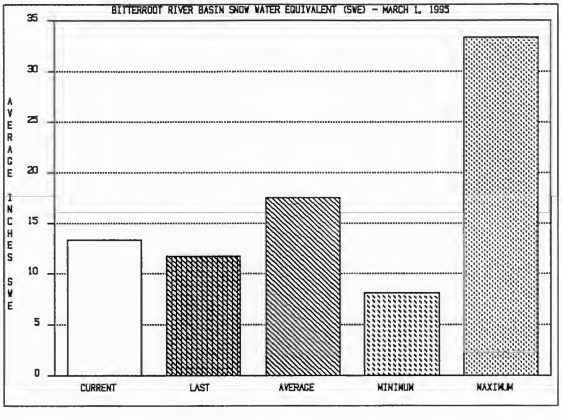
Forecast Pt / Forecast Period	<— Drier — 90% (1000AF)	70% (1000AF)	Future Conditions — 50% (Most Prob) (1000AF) (% AVG.)	— Wetter —> 30% (1000AF)	10% (1000AF)	30 Yr Avg (1000AF)
	Chance of Exceeding *					
SKALKAHO CK nr Hamilton						
APR-JUL	23	28	32	70	36	41	46
APR-SEP	28	34	38	72	42	48	53
BURNT FORK CK nr Stevensville (2)						
APR-JUL	13.0	18.0	21	72	24	29	29
APR-SEP	16.0	21	25	74	29	34	34
BITTERROOT at Missoula						
APR-JUL	715	845	932	72	1020	1150	1301
APR-SEP	795	935	1030	73	1130	1270	1418

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1961-1990 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural flow - actual flow may be affected by upstream water management.

Surface Water Supply Index (SWSI) was -1.3 in the Bitterroot River.



AVERAGE IS FOR THE PERIOD 1961-1990.

MINIMUM SNOW WATER EQUIVALENT, 1961-1994, OCCURRED IN WATER YEAR 1977.

MAXIMUM SNOW WATER EQUIVALENT, 1961-1994, OCCURRED IN WATER YEAR 1972.

LOWER CLARK FORK RIVER BASIN as of March 1, 1995

Snowpack conditions in the Lower Clark Fork River Basin were below average and has dropped 9 percent during February. Snow water content was 22 percent below average and 20 percent above last year.

Watershed Snowpack Analysis - March 1, 1995

Watershed	Number of Data Sites	This Year as Percent of Last Year	Average
LOWER CLARK FORK	11	120	78

Mountain precipitation during February was 12 percent below average and 6 percent above last year. Valley precipitation during February was 15 percent above average and 55 percent above last year. Water year precipitation, beginning October 1, 1994, was 2 percent above average and 53 percent above last year.

Noxon Rapids storage, on the last day of February, was 8 percent above average and 2 percent below last year.

Reservoir Storage (1000AF) End of February

Reservoir	Usable Capacity	********** Usable Storage ********* This Year	Last Year	Average
NOXON RAPIDS	335.0	321.2	326.7	298.1

Streamflows, for the period April through July, are forecast to be 28 percent below average and 8 percent above last years forecasts.

Streamflow Forecasts

Forecast Pt Forecast Period	<=== Drier === 90% (1000AF)	70% (1000AF)	Future Conditions 50% (Most Prob) (1000AF)	(% AVG.)	=== Wetter ===> 30% (1000AF)	10% (1000AF)	30 Yr Avg (1000AF)
			Chance of Exceeding *				
CLARK FORK ab Missoula							
APR-JUL	645	870	1020	69	1170	1390	1487
APR-SEP	755	995	1160	69	1320	1570	1681
CLARK FORK bl Missoula							
APR-JUL	1400	1730	1960	70	2190	2520	2788
APR-SEP	1580	1940	2190	71	2440	2800	3099
CLARK FORK at St. Regis (1)							
APR-JUL	1310	2180	2570	70	2960	3830	3686
APR-SEP	1470	2430	2870	70	3310	4270	4095
CLARK FORK nr Plains (1,2)							
APR-JUL	5270	6980	7760	74	8540	10300	10450
APR-SEP	5780	7660	8520	74	9380	11300	11470

Streamflow Forecasts

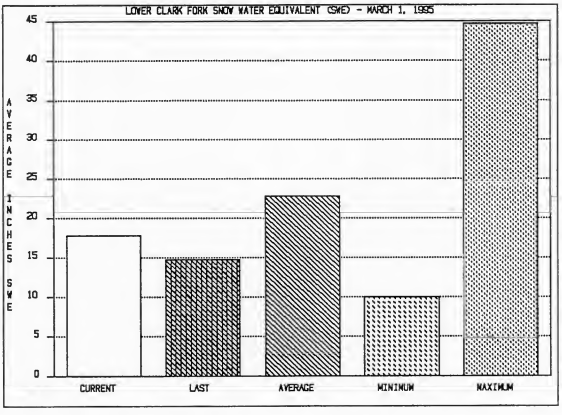
Forecast Pt Forecast Period	<=== Drier === 90% (1000AF)	70% (1000AF)	Future Conditions Chance of Exceeding * 50% (Most Prob) (1000AF)	(% AVG.)	=== Wetter ===> 30% (1000AF)	10% (1000AF)	30 Yr Avg (1000AF)
THOMPSON RIVER nr Thompson Falls							
APR-JUL	96	123	142	66	161	188	214
APR-SEP	114	143	163	68	183	210	240
PROSPECT CREEK at Thompson Falls							
APR-JUL	62	75	84	68	93	106	123
APR-SEP	70	83	92	70	101	115	132
CLARK FK at Whitehorse Rpds (1,2)							
APR-JUL	5470	7440	8330	71	9220	11200	11730
APR-SEP	6020	8190	9170	71	10200	12300	12910

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1961-1990 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural flow - actual flow may be affected by upstream water management.

Surface Water Supply Index (SWSI) was -1.6 in the Clark Fork River below Bitterroot River and -1.4 in the Clark Fork River below Flathead River.



AVERAGE IS FOR THE PERIOD 1961-1990.

MINIMUM SNOW WATER EQUIVALENT, 1961-1994, OCCURRED IN WATER YEAR 1977.

MAXIMUM SNOW WATER EQUIVALENT, 1961-1994, OCCURRED IN WATER YEAR 1972.

JEFFERSON RIVER BASIN as of March 1, 1995

Snowpack conditions in the Jefferson River Basin were slightly above average and has dropped 9 percent during February. Snow water content was 6 percent above average and 51 percent above last year.

Watershed Snowpack Analysis

Watershed	Number of Data Sites	This Year as Percent of Last Year	Average
BEAVERHEAD	15	143	112
RUBY	10	163	111
BIGHOLE	14	149	101
BOULDER	7	149	99
JEFFERSON RIVER BASIN	38	151	106

Mountain precipitation during February was 31 percent above average and 36 percent above last year. Valley precipitation during February was 25 percent below average and 47 percent below last year. Water year precipitation, beginning October 1, 1994, was 39 percent above average and 111 percent above last year.

Reservoir storage, on the last day of February, was 21 percent below average and 32 percent below last year. Lima storage was 63 percent below average and 75 percent below last year; Clark Canyon storage was 12 percent below average and 19 percent below last year; and Ruby River storage was 15 percent below average and 28 percent below last year.

Reservoir Storage (1000AF) End of February

Reservoir	Usable Capacity	********** Usable Storage ********** This Year	Last Year	Average
LIMA	84.0	12.7	51.6	34.5
CLARK CANYON	255.6	129.4	160.5	146.6
RUBY RIVER	38.8	23.3	32.5	27.3

Streamflows, for the period April through July, are forecast to be 5 percent below average and 62 percent above last years forecasts.

Streamflow Forecasts

Forecast Pt Forecast Period	<=== Drier === 90% (1000AF)	70% (1000AF)	Future Conditions 50% (Most Prob) (1000AF)	(% AVG.)	=== Wetter ===> 30% (1000AF)	10% (1000AF)	30 Yr Avg (1000AF)
	Chance of Exceeding *						
RED ROCK RIVER near Monida (2)							
APR-JUL	44	61	73	75	85	102	97
APR-SEP	44	65	79	75	93	114	105
BEAVERHEAD RIVER near Grant (2)							
APR-JUL	64	88	105	80	122	146	132
APR-SEP	72	103	124	80	145	176	155

Streamflow Forecasts

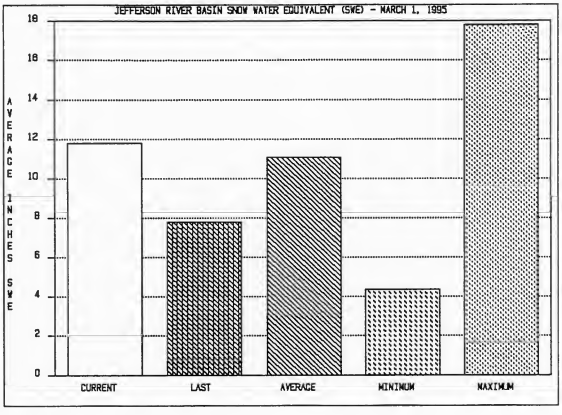
Forecast Pt / Forecast Period	<== Drier == 90% (1000AF)	70% (1000AF)	Future Conditions — Chance of Exceeding * — 50% (Most Prob) (1000AF)	(% AVG.)	== Wetter ==> 30% (1000AF)	10% (1000AF)	30 Yr Avg (1000AF)
BEAVERHEAD RIVER at Barretts (2)							
APR-JUL	88	117	137	80	157	186	172
APR-SEP	113	144	164	81	185	215	203
RUBY RIVER near Alder							
APR-JUL	66	84	96	116	108	126	83
APR-SEP	80	101	115	116	129	150	99
BIG HOLE RIVER near Melrose							
APR-JUL	390	510	590	92	670	790	641
APR-SEP	450	575	660	95	745	870	697
BOULDER RIVER near Boulder							
APR-JUL	43	64	78	92	92	113	85
APR-SEP	45	67	82	90	97	119	91
WILLOW CREEK near Harrison							
APR-JUL	6.7	12.7	16.7	94	21	27	17.7
APR-SEP	7.2	14.2	19.0	95	24	31	20
JEFFERSON RIVER near Three Forks (2)							
APR-JUL	615	810	946	103	1080	1280	920
APR-SEP	705	915	1054	104	1200	1400	1012

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1961-1990 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural flow - actual flow may be affected by upstream water management.

Surface Water Supply Index (SWSI) was -0.9 in the Beaverhead River; +0.5 in the Ruby River; -0.2 in the Big Hole River; -0.3 in the Boulder River; and -0.3 in the Jefferson River as a whole.



AVERAGE IS FOR THE PERIOD 1960-1990.

MINIMUM SNOW WATER EQUIVALENT, 1961-1994, OCCURRED IN WATER YEAR 1977.

MAXIMUM SNOW WATER EQUIVALENT, 1961-1994, OCCURRED IN WATER YEAR 1972.

MADISON RIVER BASIN as of March 1, 1995

Snowpack conditions in the Madison River Basin were above average and has dropped 21 percent during February. Snow water content was 13 percent above average and 48 percent above last year. The Upper Madison continues to have the highest snow water content for Montana.

Watershed Snowpack Analysis

Watershed	Number of Data Sites	This Year as Percent of Last Year	Average
MADISON above HEBGEN LAKE	6	151	123
MADISON below HEBGEN LAKE	11	145	106
MADISON RIVER BASIN	17	148	113

Mountain precipitation during February was 34 percent below average and 46 percent below last year. Valley precipitation during February was 59 percent below average and 65 percent below last year. Water year precipitation, beginning October 1, 1994, was 26 percent above average and 63 percent above last year.

Reservoir storage, on the last day of February, was 3 percent above average and 1 percent below last year. Ennis Lake storage was 10 percent below average and 3 percent below last year and Hebgen Lake storage was 5 percent above average and 1 percent below last year.

Reservoir Storage (1000AF) End of February

Reservoir	Usable Capacity	********** Usable Storage ********** This Year	Last Year	Average
ENNIS LAKE	41.0	30.6	31.6	34.1
HEBGEN LAKE	377.5	259.2	260.9	247.8

Streamflows, for the period April through July, are forecast to be 15 percent above average and 48 percent above last years forecasts.

Streamflow Forecasts

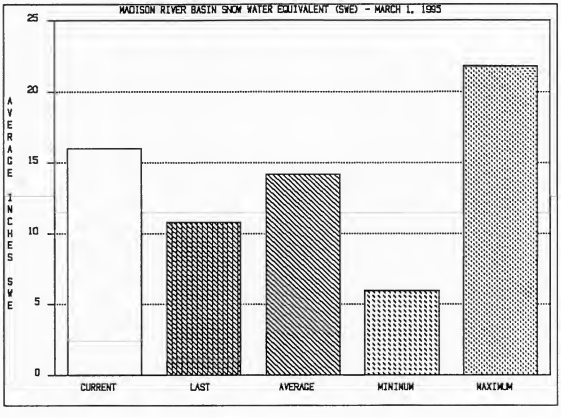
Forecast Pt / Forecast Period	<== Drier == 90% (1000AF)	70% (1000AF)	Future Conditions — Chance of Exceeding * — 50% (Most Prob) (1000AF)	(% AVG.)	== Wetter ==> 30% (1000AF)	10% (1000AF)	30 Yr Avg (1000AF)
MADISON RIVER near Grayling (2)							
APR-JUL	390	430	456	120	485	520	380
APR-SEP	495	545	577	119	610	655	486
MADISON RIVER near McAllister (2)							
APR-JUL	645	705	745	113	785	845	662
APR-SEP	820	885	932	112	975	1040	831

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1961-1990 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural flow - actual flow may be affected by upstream water management.

Surface Water Supply Index (SWSI) was +2.5 for the Madison River.



AVERAGE IS FOR THE PERIOD 1961-1990.

MINIMUM SNOW WATER EQUIVALENT, 1961-1994, OCCURRED IN WATER YEAR 1977.

MAXIMUM SNOW WATER EQUIVALENT, 1961-1994, OCCURRED IN WATER YEAR 1965.

GALLATIN RIVER BASIN as of March 1, 1995

Snowpack conditions in the Gallatin River Basin were below average and has dropped 19 percent during February. Snow water content was 10 percent below average and 15 percent above last year.

Watershed Snowpack Analysis

Watershed	Number of Data Sites	This Year as Percent of Last Year	Average
UPPER GALLATIN	7	129	98
HYALITE	4	108	82
BRIDGER	3	89	78
GALLATIN RIVER BASIN	14	115	90

Mountain precipitation during February was 44 percent below average and 24 percent below last year. Valley precipitation during February was 46 percent below average and 38 percent below last year. Water year precipitation, beginning October 1, 1994, was 1 percent above average and 36 percent above last year.

Middle Creek storage, on the last day of February, was NOT AVAILABLE.

Reservoir Storage (1000AF) End of February

Reservoir	Usable Capacity	********** Usable Storage ********** This Year	Last Year	Average
MIDDLE CREEK		NO REPORT		

Streamflows, for the period April through July, are forecast to be average and 35 percent above last years forecasts.

Streamflow Forecasts

Forecast Pt Forecast Period	<=== Drier === 90% (1000AF)	70% (1000AF)	Future Conditions Chance of Exceeding * 50% (Most Prob) (1000AF)	(% AVG.)	=== Wetter ===> 30% (1000AF)	10% (1000AF)	30 Yr Avg (1000AF)
GALLATIN RIVER near Gateway							
APR-JUL	390	435	465	105	495	540	441
APR-SEP	465	515	545	105	575	625	518
E & W FK HYALITE CREEK near Bozeman							
APR-JUL	15.0	18.0	20	87	22	25	23
APR-SEP	18.0	21	23	88	25	28	26
HYALITE CREEK near Bozeman (2)							
APR-JUL	25	29	32	89	35	40	36
APR-SEP	30	35	38	90	41	46	42

Streamflow Forecasts

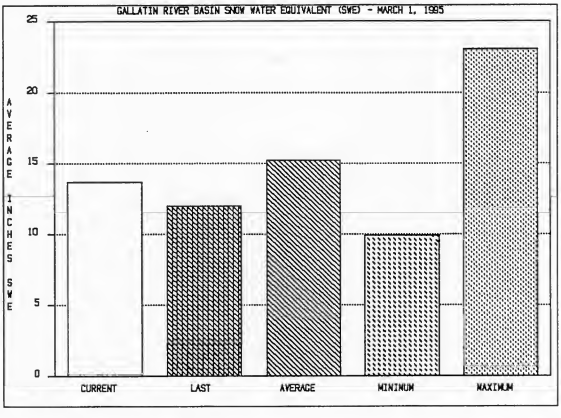
Forecast Pt / Forecast Period	<== Drier == 90% (1000AF)	70% (1000AF)	Future Conditions — Chance of Exceeding * — 50% (Most Prob) (1000AF)	(% AVG.)	== Wetter ==> 30% (1000AF)	10% (1000AF)	30 Yr Avg (1000AF)
GALLATIN RIVER at Logan (2)							
APR-JUL	340	420	479	96	535	620	498
APR-SEP	415	505	563	97	620	710	581

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1961-1990 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural flow - actual flow may be affected by upstream water management.

Surface Water Supply Index (SWSI) was +0.1 for the Gallatin River.



AVERAGE IS FOR THE PERIOD 1961-1990.

MINIMUM SNOW WATER EQUIVALENT, 1961-1994, OCCURRED IN WATER YEAR 1977.

MAXIMUM SNOW WATER EQUIVALENT, 1961-1994, OCCURRED IN WATER YEAR 1965.

MISSOURI MAINSTEM RIVER BASIN as of March 1, 1995

Snowpack conditions in the Missouri Mainstem River Basin were well below average and has dropped 18 percent during February. Snow water content was 31 percent below average and 24 percent below last year.

Watershed Snowpack Analysis

Watershed	Number of Data Sites	This Year as Percent of Last Year	Average
HEADWATERS MAINSTEM	9	108	80
SUN-TETON-MARIAS BASINS	14	87	73
SMITH-JUDITH-MUSSELSHELL	12	84	78
MAINSTEM ab FORT PECK RES	34	88	75
MILK	11	4	7
MISSOURI MAINSTEM BASIN	45	76	69

Mountain precipitation during February was 49 percent below average and 20 percent below last year. Valley precipitation during February was 67 percent below average and 63 percent below last year. Water year precipitation, beginning October 1, 1994, was 7 percent below average and 15 percent above last year.

Reservoir storage, on the last day of February, was 2 percent above average and 4 percent above last year. Canyon Ferry Lake storage was 1 percent above average and 5 percent above last year; Helena Valley storage was 2 percent below average and 5 percent below last year; Lake Helena storage was 7 percent above average and the same as last year; Hauser & Helena storage was 3 percent above average and the same as last year; Holter Lake storage was 16 percent above average and 3 percent below last year; and Fort Peck Lake storage was 2 percent below average and 2 percent below last year.

Reservoir Storage (1000AF) End of February

Reservoir	Usable Capacity	********** Usable Storage ********** This Year	Last Year	Average
CANYON FERRY LAKE	2043.0	1563.0	1488.0	1540.0
HELENA VALLEY	9.2	4.1	4.3	4.2
LAKE HELENA	10.4	10.9	10.9	10.2
HAUSER & HELENA	61.9	63.1	63.4	61.0
HOLTER LAKE	81.9	79.1	81.2	68.2
FORT PECK LAKE (MAF)	18.9	14.4	14.7	14.7

Streamflows, for the period April through July, are forecast to be 10 percent below average and 31 percent above last years forecasts.

Streamflow Forecasts

Forecast Pt Forecast Period	<=== Drier === 90% (1000AF)	70% (1000AF)	Future Conditions Chance of Exceeding * 50% (Most Prob) (1000AF)	(% AVG.)	=== Wetter ===> 30% (1000AF)	10% (1000AF)	30 Yr Avg (1000AF)
MISSOURI RIVER at Toston (2)							
APR-JUL	1470	1890	2170	105	2450	2870	2075
APR-SEP	2050	2250	2540	105	2840	3160	2416
PRICKLY PEAR CREEK near Clancy							
APR-JUL	8.0	15.0	21	91	28	37	23
APR-SEP	9.0	18.0	25	93	32	43	27
SUN RIVER at Gibson Dam (2)							
APR-JUL	245	320	370	77	420	495	478
APR-SEP	280	360	415	79	470	550	526
MISSOURI RIVER at Fort Benton (2)							
APR-JUL	1530	2260	2760	89	3260	3990	3087
APR-SEP	2460	2770	3310	90	3850	4340	3678
MARIAS RIVER near Shelby (2)							
APR-JUL	189	280	342	77	405	495	447
APR-SEP	215	305	369	76	430	525	487
MISSOURI RIVER at Virgelle (2)							
APR-JUL	1760	2580	3140	87	3700	4520	3595
APR-SEP	2660	3100	3700	88	4300	5140	4217
MISSOURI RIVER near Landusky (2)							
APR-JUL	1920	2800	3400	87	4000	4880	3897
APR-SEP	2890	3420	4030	88	4640	5630	4580
MISSOURI RIVER below Fort Peck (2)							
APR-JUL	1970	2860	3470	86	4080	4970	4015
APR-SEP	2680	3420	3990	89	4560	5540	4467

Streamflow Forecasts

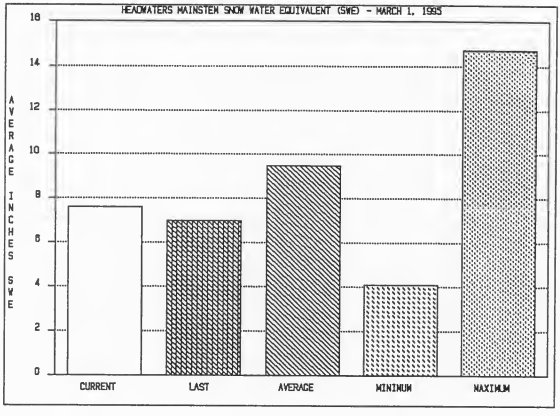
Forecast Pt / Forecast Period	<== Drier == 90% (1000AF)	70% (1000AF)	Future Conditions: Chance of Exceeding * 50% (Most Prob) (1000AF)	(% AVG.)	== Wetter ==> 30% (1000AF)	10% (1000AF)	30 Yr Avg (1000AF)
LAKE SAKAKAWEA Inflow (2)							
APR-JUL	6060	7800	8990	91	10200	11900	9897
APR-SEP	7600	9260	10440	92	11600	13700	11346

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1961-1990 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural flow - actual flow may be affected by upstream water management.

Surface Water Supply Index (SWSI) was +0.7 in the Missouri River above Canyon Ferry; +0.6 in the Missouri River below Canyon Ferry; +0.6 in the Missouri River above Fort Peck; and +0.1 in the Missouri River below Fort Peck.



AVERAGE IS FOR THE PERIOD 1961-1990.

MINIMUM SNOW WATER EQUIVALENT, 1961-1994, OCCURRED IN WATER YEAR 1977.

MAXIMUM SNOW WATER EQUIVALENT, 1961-1994, OCCURRED IN WATER YEAR 1972.

SMITH-JUDITH-MUSSELSHELL RIVER BASINS as of March 1, 1995

Snowpack conditions in the Smith-Judith-Musselshell River Basins were below average and have dropped 13 percent during February. Snow water content was 22 percent below average and 16 percent below last year.

Watershed Snowpack Analysis - March 1, 1995

Watershed	Number of Data Sites	This Year as Percent of Last Year	Average
SMITH	6	91	81
JUDITH	6	72	75
MUSSELSHELL	5	91	72
SMITH-JUDITH-MUSSELSHELL	12	84	78

Mountain and valley precipitation during February was 39 percent below average and 25 percent below last year. Water year precipitation, beginning October 1, 1994, was 7 percent below average and 3 percent below last year.

Reservoir storage, on the last day of February, was 7 percent above average and 18 percent below last year. Smith River storage was 21 percent below average and 40 percent below last year; Newlan Creek storage was 24 percent above average and 9 percent below last year; Bair storage was 10 percent below average and 17 percent below last year; Martinsdale storage was 45 percent below average and 68 percent below last year; and Deadman's Basin was 20 percent above average and 2 percent below last year.

Reservoir Storage (1000AF) End of February

Reservoir	Usable Capacity	********** Usable Storage ********** This Year	Last Year	Average
SMITH RIVER	10.6	5.3	8.9	6.7
NEWLAN CREEK	12.4	10.2	11.2	8.2
BAIR	7.0	3.8	4.6	4.2
MARTINSDALE	23.1	5.2	16.2	9.4
DEADMAN'S BASIN	72.2	55.4	56.4	46.1

Streamflows, for the period April through July, are forecast to be 18 percent below average and 1 percent below last years forecasts.

Streamflow Forecasts

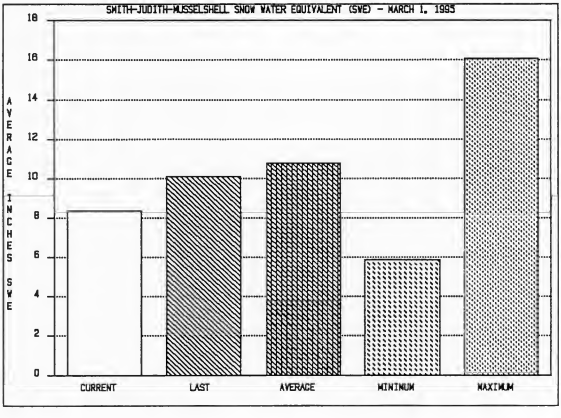
Forecast Pt / Forecast Period	<--- Drier --- 90% (1000AF)	70% (1000AF)	Future Conditions --- 50% (Most Prob) (1000AF)	(% AVG.)	--- Wetter ---> 30% (1000AF)	10% (1000AF)	30 Yr Avg (1000AF)
	Chance of Exceeding *						
SMITH RIVER near Fort Logan							
APR-JUL	29	43	52	84	61	75	62
APR-SEP	40	54	63	86	72	86	73
SHEEP CREEK nr White Sulphur Springs							
APR-JUL	9.2	11.9	13.7	76	15.5	18.2	18.1
APR-SEP	11.0	14.0	16.0	77	18.0	21	21
NF MUSSELSHELL near Delpine							
APR-JUL	1.1	2.5	3.5	73	4.5	5.9	4.8
APR-SEP	1.5	3.0	4.1	73	5.2	6.7	5.6
SF MUSSELSHELL abv Martinsdale							
APR-JUL	12.0	30	43	83	56	74	52
APR-SEP	15.0	34	47	84	60	79	56

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1961-1990 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural flow - actual flow may be affected by upstream water management.

Surface Water Supply Index (SWSI) was -1.9 in the Smith River and -0.7 in the Musselshell River.



AVERAGE IS FOR THE PERIOD 1961-1990.

MINIMUM SNOW WATER EQUIVALENT, 1961-1994, OCCURRED IN WATER YEAR 1987.

MAXIMUM SNOW WATER EQUIVALENT, 1961-1994, OCCURRED IN WATER YEAR 1978.

SUN-TETON-MARIAS RIVER BASINS as of March 1, 1995

Snowpack conditions in the Sun-Teton-Marias River Basins were below average and have dropped 16 percent during February. Snow water content was 27 percent below average and 13 percent below last year.

Watershed Snowpack Analysis

Watershed	Number of Data Sites	This Year as Percent of Last Year	Average
SUN	7	72	57
TETON	4	76	71
MARIAS	6	100	84
SUN-TETON-MARIAS BASINS 4	14	87	73

Mountain and valley precipitation for February was 20 percent below average and 11 percent below last year. Water year precipitation, beginning October 1, 1994, was 1 percent below average and 24 percent above last year.

Reservoir storage, on the last day of February, was 11 percent above average and 11 percent below last year. Gibson storage was 41 percent below average and 44 percent below last year; Pishkun storage was 0 percent of average and 0 percent of last year; Willow Creek storage was 12 percent below average and 39 percent below last year; Lower Two Medicine Lake storage was 49 percent above average and 13 percent below last year; Four Horns Lake storage was 10 percent below average and 3 percent above last year; Swift storage was 5 percent below average and 25 percent below last year; Lake Frances storage was 28 percent below average and 46 percent below last year; and Lake Elwell (Tiber) storage was 25 percent above average and 1 percent below last year.

Reservoir Storage (1000AF) End of February

Reservoir	Usable Capacity	********** Usable Storage ********** This Year	Last Year	Average
GIBSON	99.1	28.1	50.5	47.5
PISHKUN	32.0	0.0	19.0	17.6
WILLOW CREEK	32.2	19.1	31.4	21.7
LOWER TWO MEDICINE LAKE	11.9	10.3	11.8	6.9
FOUR HORNS LAKE	19.2	11.3	11.0	12.5
SWIFT	30.0	15.5	20.8	16.4
LAKE FRANCES	112.0	50.4	93.9	69.7
LAKE ELWELL (TIBER)	1347.0	725.6	730.7	580.2

Streamflows, for the period April through July, are forecast to be 21 percent below average and the same percent as last years forecasts.

Streamflow Forecasts

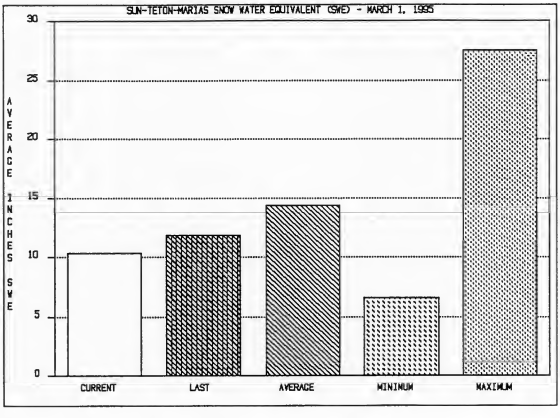
Forecast Pt / Forecast Period	<--- Drier --- Future Conditions --- Wetter ---> Chance of Exceeding * 90% (1000AF)	70% (1000AF)	50% (Most Prob) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	30 Yr Avg (1000AF)
SUN RIVER at Gibson Dam (2)							
APR-JUL	245	320	370	77	420	495	478
APR-SEP	280	360	415	79	470	550	526
TWO MEDICINE RIVER near Browning (2)							
APR-JUL	110	156	187	87	220	265	215
APR-SEP	121	167	198	87	230	275	228
BADGER CREEK near Browning (2)							
APR-JUL	56	76	89	86	102	122	104
APR-SEP	69	90	104	87	118	139	120
SWIFT RESERVOIR Inflow near Dupuyer							
APR-JUL	29	44	54	79	64	79	68
APR-SEP	40	56	66	83	77	92	80
DUPUYER CREEK near Valier							
APR-JUL	2.8	4.7	6.5	42	12.5	21	15.5
APR-SEP	3.3	5.4	7.5	43	13.8	23	17.4
CUT BANK CREEK at Cut Bank							
APR-JUL	46	61	71	82	81	96	87
APR-SEP	53	69	79	82	90	105	96
MARIAS RIVER near Shelby (2)							
APR-JUL	189	280	342	77	405	495	447
APR-SEP	215	305	369	76	430	525	487

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1961-1990 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural flow - actual flow may be affected by upstream water management.

Surface Water Supply Index (SWSI) was -2.0 in the Sun River; -1.5 in the Teton River; -1.8 in the Birch/Dupuyer Creeks; and -1.2 in the Marias River.



AVERAGE IS FOR THE PERIOD 1961-1990.

MINIMUM SNOW WATER EQUIVALENT, 1961-1994, OCCURRED IN WATER YEAR 1984.

MAXIMUM SNOW WATER EQUIVALENT, 1961-1994, OCCURRED IN WATER YEAR 1972.

ST. MARY and MILK RIVER BASINS as of March 1, 1995

Snowpack conditions in the St. Mary were below average and in the Milk were severely below average. Snow water content in the St. Mary during February dropped 7 percent while the snow water content in the Milk dropped 23 percent. Snow water content in the St. Mary was 14 percent below average and 10 percent below last year and the Milk was 93 percent below average and 96 percent below last year. Average snow water content in the Bearpaw Mountains has tied the minimum record previously set on March 1, 1981.

ST. MARY and MILK RIVER BASINS
Watershed Snowpack Analysis

Watershed	Number of Data Sites	This Year as Percent of Last Year	Average
ST. MARY RIVER BASIN	3	90	86
BEARPAW MOUNTAINS	5	7	12
CYPRESS HILLS, CANADA	6	2	2
MILK RIVER BASIN	11	4	7
ST. MARY and MILK BASINS	14	50	59

Mountain and valley precipitation during February was 7 percent below average and 28 percent below last year. Water year precipitation, beginning October 1, 1994, was 2 percent below average and 5 percent above last year.

Reservoir storage, on the last day of February, was 18 percent below average and 37 percent below last year. Lake Sherburne storage was 20 percent below average and 32 percent below last year; Fresno storage was 2 percent below average and 31 percent below last year; Beaver Creek storage was 40 percent above average and 7 percent below last year; and Nelson storage was 43 percent below average and 53 percent below last year.

Reservoir Storage (1000AF) End of February

Reservoir	Usable Capacity	********** Usable Storage This Year	Last Year	********* Average
LAKE SHERBURNE	64.3	21.0	31.1	26.3
FRESNO	127.0	50.9	73.6	52.0
BEAVER CREEK	3.5	2.8	3.0	2.0
NELSON	66.8	20.1	43.1	35.3

Streamflows, for the period April through July, are forecast to be 20 percent below average and 2 percent below last years forecasts.

Streamflow Forecasts

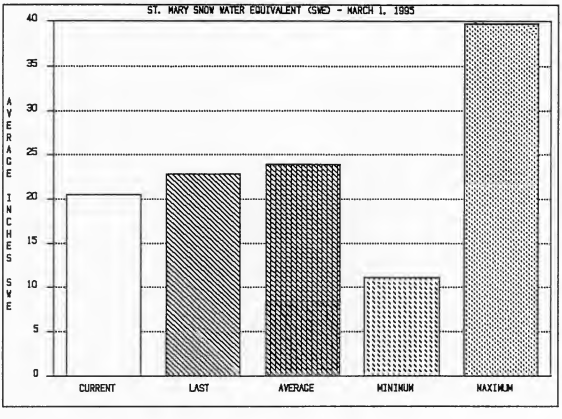
Forecast Pt / Forecast Period	<=== Drier === 90% (1000AF)	70% (1000AF)	Future Conditions 50% (Most Prob) (1000AF) (% AVG.)	=== Wetter ===> 30% (1000AF)	10% (1000AF)	30 Yr Avg (1000AF)
	Chance of Exceeding *					
SWIFTCURRENT CREEK at Sherburne (2)						
APR-JUL	77	86	92	86	98	107	107
APR-SEP	92	101	108	86	115	124	125
ST. MARY RIVER near Babb						
APR-JUL	275	310	329	83	350	380	395
APR-SEP	325	365	387	84	410	450	463
MILK RIVER at Western Crossing						
MAR-JUL	10.0	19.0	26	59	33	42	44
MAR-SEP	12.0	22	28	61	35	44	46
MILK RIVER at Eastern Crossing (2)						
MAR-JUL	18.0	41	56	70	72	94	80
MAR-SEP	27	49	64	73	79	101	88
BEAVER CREEK near Havre						
MAR-JUL	2.1	3.6	5.2	50	8.5	13.3	10.3

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1961-1990 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural flow - actual flow may be affected by upstream water management.

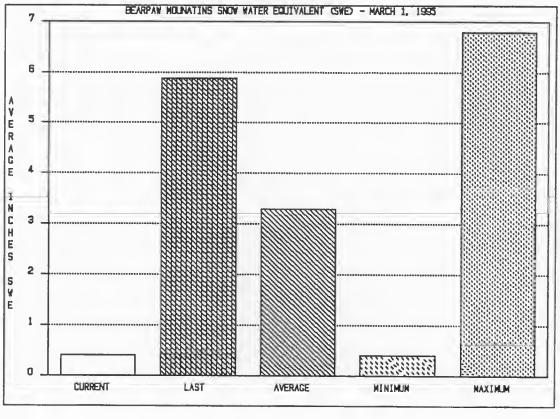
Surface Water Supply Index (SWSI) was -2.3 for the combined St. Mary and Milk River.



AVERAGE IS FOR THE PERIOD 1961-1990.

MINIMUM SNOW WATER EQUIVALENT, 1961-1994, OCCURRED IN WATER YEAR 1977.

MAXIMUM SNOW WATER EQUIVALENT, 1961-1994, OCCURRED IN WATER YEAR 1972.



AVERAGE IS FOR THE PERIOD 1961-1990.

MINIMUM SNOW WATER EQUIVALENT, 1973-1994, WAS 0.4 INCHES AND OCCURRED IN WATER YEAR 1981 AND 1995 HAS NOW TIED THIS MINIMUM.

MAXIMUM SNOW WATER EQUIVALENT, 1973-1994, WAS 6.8 INCHES AND OCCURRED IN WATER YEAR 1978.

UPPER YELLOWSTONE RIVER BASIN as of March 1, 1995

Snowpack conditions in the Upper Yellowstone River Basin were near average and has dropped 10 percent during February. Snow water content was 5 percent below average and 11 percent above last year.

Watershed Snowpack Analysis

Watershed	Number of Data Sites	This Year as Percent of Last Year	Average
YELLOWSTONE ab LIVINGSTON	17	116	98
SHIELDS	5	99	80
BOULDER-STILLWATER	4	98	83
CLARK'S FORK-ROCK CREEK	13	116	101
UPPER YELLOWSTONE BASIN	35	111	95

Mountain precipitation during February was 27 percent below average and 32 percent below last year. Valley precipitation during February was 37 percent below average and 38 percent below last year. Water year precipitation, beginning October 1, 1994, was 7 percent above average and 28 percent above last year.

Reservoir storage, on the last day of February, was 18 percent above average and 18 percent above last year. Mystic Lake storage was 47 percent below average and 11 percent above last year and Cooney storage was 43 percent above average and 19 percent above last year.

Reservoir Storage (1000AF) End of February

Reservoir	Usable Capacity	********** Usable Storage ********** This Year	Last Year	Average
MYSTIC LAKE	21.0	3.1	2.8	5.8
COONEY	27.4	22.0	18.5	15.4

Streamflows, for the period April through July, are forecast to be 5 percent below average and 15 percent above last years forecasts.

Streamflow Forecasts

Forecast Pt Forecast Period	<--- Drier --- 90% (1000AF)	70% (1000AF)	Future Conditions --- 50% (Most Prob) (1000AF)	Chance of Exceeding * (% AVG.)	--- Wetter ---> 30% (1000AF)	10% (1000AF)	30 Yr Avg (1000AF)
YELLOWSTONE RIVER at Corwin Springs							
APR-JUL	1350	1460	1532	95	1610	1720	1609
APR-SEP	1620	1750	1840	95	1930	2060	1937
YELLOWSTONE RIVER near Livingston							
APR-JUL	1530	1670	1766	95	1860	2000	1855
APR-SEP	1860	2020	2132	95	2240	2410	2241
SHIELDS RIVER near Livingston							
APR-JUL	89	119	140	86	161	191	162
APR-SEP	104	134	155	87	176	205	179

Streamflow Forecasts

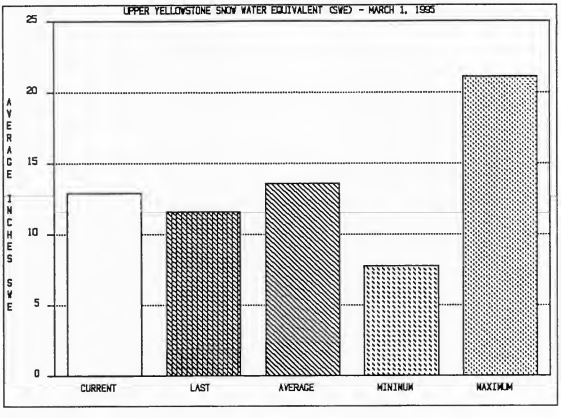
Forecast Pt / Forecast Period	<== Drier == Future Conditions == Wetter ==> Chance of Exceeding * 90% (1000AF)	70% (1000AF)	50% (Most Prob) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	30 Yr Avg (1000AF)
BOULDER RIVER at Big Timber							
APR-JUL	235	275	301	90	330	370	335
APR-SEP	255	295	325	89	355	395	364
WEST ROSEBUD CREEK near Roscoe (2)							
APR-JUL	46	54	59	97	64	72	61
APR-SEP	65	74	79	100	85	93	79
STILLWATER RIVER nr Absarokee (2)							
APR-JUL	335	420	480	96	540	625	498
APR-SEP	440	525	585	99	645	730	593
CLARKS FORK RIVER near Belfry							
APR-JUL	430	485	525	99	565	625	532
APR-SEP	480	540	581	98	620	680	590
RED LODGE CREEK blw Cooney Res (2)							
APR-JUL	20	37	48	102	60	76	47
APR-SEP	31	48	59	104	70	87	57
YELLOWSTONE RIVER at Billings (2)							
APR-JUL	2710	3130	3420	96	3710	4130	3577
APR-SEP	3450	3780	4090	97	4400	4760	4211

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1961-1990 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural flow - actual flow may be affected by upstream water management.

Surface Water Supply Index (SWSI) was -0.2 in the Yellowstone River above Livingston; -0.9 in the Shields River; -0.7 in the Boulder River; +0.0 in the Stillwater River; -0.3 in the Rock/Red lodge Creeks; -0.7 in the Clarks Fork River; and -0.3 in the Yellowstone River above Bighorn River.



AVERAGE IS FOR THE PERIOD 1961-1990.

MINIMUM SNOW WATER EQUIVALENT, 1961-1994, OCCURRED IN WATER YEAR 1977.

MAXIMUM SNOW WATER EQUIVALENT, 1961-1994, OCCURRED IN WATER YEAR 1965.

LOWER YELLOWSTONE RIVER BASIN as of March 1, 1995

Snowpack conditions in the Lower Yellowstone River Basin were near average and has dropped 7 percent during February. Snow water content was 5 percent below average and 11 percent above last year.

Watershed Snowpack Analysis

Watershed	Number of Data Sites	This Year as Percent of Last Year	Average
WIND RIVER (Wyoming)	20	125	92
SHOSHONE RIVER (Wyoming)	7	125	106
BIGHORN RIVER (Wyoming)	21	106	98
LITTLE BIGHORN (WYOMING)	3	68	76
TONGUE RIVER (Wyoming)	9	93	89
POWDER RIVER (Wyoming)	9	121	108
LOWER YELLOWSTONE BASIN	49	111	95

Mountain and valley precipitation during February was 10 percent below average and 26 percent below last year. Water year precipitation, beginning October 1, 1994, was 22 percent above average and 28 percent above last year.

Reservoir storage, on the last day of February, was 2 percent below average and 3 percent above last year. Bighorn Lake storage was 2 percent below average and 3 percent above last year and Tongue River was 2 percent below average and 106 percent above last year.

Reservoir Storage (1000AF) End of February

Reservoir	Usable Capacity	********** Usable Storage ********* This Year	Last Year	Average
BIGHORN LAKE	1356.0	796.6	775.9	810.4
TONGUE RIVER	68.0	29.4	14.3	30.1

Streamflows, for the period April through July, are forecast to be 4 percent below average and 14 percent above last years forecasts.

Streamflow Forecasts

Forecast Pt	<=== Drier === Future Conditions === Wetter ===> Chance of Exceeding *						
Forecast Period	90% (1000AF)	70% (1000AF)	50% (Most Prob) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	30 Yr Avg (1000AF)
YELLOWSTONE RIVER at Billings (2)							
APR-JUL	2710	3130	3420	96	3710	4130	3577
APR-SEP	3450	3780	4090	97	4400	4760	4211
BIGHORN RIVER nr St. Xavier (2)							
APR-JUL	1120	1440	1655	101	1870	2190	1645
APR-SEP	1310	1610	1847	103	2090	2350	1794

Streamflow Forecasts

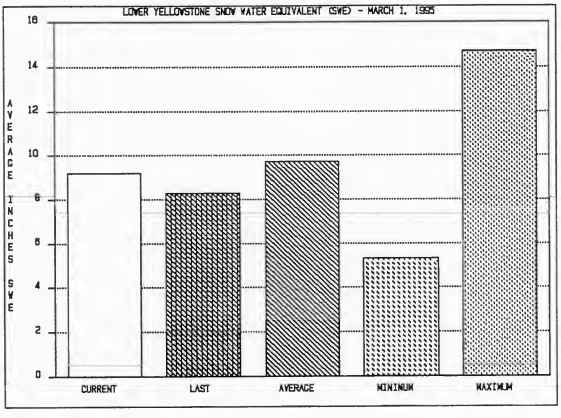
Forecast Pt / Forecast Period	<== Drier == Future Conditions == Wetter ==> Chance of Exceeding * 90% (1000AF)	70% (1000AF)	50% (Most Prob) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	30 Yr Avg (1000AF)
LITTLE BIGHORN RIVER nr Hardin							
APR-JUL	58	98	125	89	152	192	140
APR-SEP	68	114	145	92	176	225	157
TONGUE RIVER stateline nr Decker (2)							
APR-JUL	138	191	226	98	260	315	230
APR-SEP	115	215	250	98	285	345	256
YELLOWSTONE RIVER at Miles City (2)							
APR-JUL	3780	4700	5330	98	5960	6880	5431
APR-SEP	4840	5510	6220	99	6930	7600	6281
POWDER RIVER at Moorhead							
MAR-JUL	142	186	215	87	245	290	246
MAR-SEP	165	210	241	90	270	315	268
POWDER RIVER near Locate							
MAR-JUL	139	199	240	75	280	340	320
MAR-SEP	143	220	268	78	320	395	343
YELLOWSTONE RIVER nr Sidney (2)							
APR-JUL	3830	4900	5630	95	6360	7430	5925
APR-SEP	4840	5350	6250	92	7150	8110	6814

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1961-1990 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural flow - actual flow may be affected by upstream water management.

Surface Water Supply Index (SWSI) was -0.6 in the Bighorn River below Bighorn Lake; -1.8 in the Little Bighorn River; -0.4 in the Yellowstone River below Bighorn River; -0.7 in the Tongue River; and +0.5 in the Powder River.



AVERAGE IS FOR THE PERIOD 1961-1990.

MINIMUM SNOW WATER EQUIVALENT, 1961-1994, OCCURRED IN WATER YEAR 1977.

MAXIMUM SNOW WATER EQUIVALENT, 1961-1994, OCCURRED IN WATER YEAR 1972.

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Montana
Basin Outlook Report

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